

SEAHAM HARBOUR

Urban District Council.

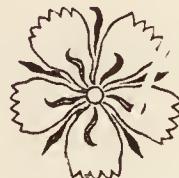


# Annual Report

FOR 1909,

OF

THE MEDICAL OFFICER OF HEALTH.



SEAHAM HARBOUR :

W. J. Young, Printer and Stationer, North Railway Street.

—  
1910.



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To the Chairman and Members  
of the  
**Seaham Harbour Urban District Council.**

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Gentlemen,

I have pleasure in submitting my Annual Report for 1909.

**POPULATION, &c., AT CENSUS 1901.**

Population 10,163

Increase between 1891 and 1901—1,119

Percentage of Increase—12·3

Area in Acres, 1,101

Number of Persons per Acre—9·2

Number of Inhabited Houses—1,313

Number of Persons per House—7·7.

The number of births registered for the years 1901-1909 was 4,263, and the number of deaths 1,992, a natural increase of 2,271.

The population estimated on this basis would have been 12,434 on 31st December, 1909.

The population estimated to June, 1909, was 14,000.

**BIRTHS.**

The number of births registered was 550, which is 80 more than the previous year. Of these births 288 were male and 262 female; 6 males and 6 females were illegitimate.

The birth-rate was 39·2, as compared with 42·3, the average for the previous 10 years, and 37·6 for 1908. The highest birth-rate recorded in this district was 47·6 in 1902. The birth-rate for England and Wales for 1909 was 25·6.

The following table gives the number of births registered in each month.

## BIRTHS.

Months		Male	Female	Monthly Totals
January	.. ..	19	17	36
February	.. ..	25	19	44
March	.. ..	22	17	39
April	.. ..	27	28	55
May	.. ..	45	30	75
June	.. ..	23	30	53
July	.. ..	25	24	49
August	.. ..	24	21	45
September	.. ..	19	21	40
October	.. ..	25	22	47
November	.. ..	14	11	25
December	.. ..	20	22	42
YEARLY TOTALS ..		288	262	550

## DEATHS.

199 deaths of persons belonging to this district occurred. Of these 113 were male and 86 female, which gives a mortality rate of 14·2, as compared with 20·6, the average for the previous 10 years, and 18·8 for 1908. The highest death rate recorded in this district was 25·0 in 1901, when 255 deaths occurred.

The number of deaths registered in this district was 192, equal to a rate of 13·7. This compares favourably with 216 in the previous year, and 226 in 1907.

The deaths of persons under 5 years of age numbered 107, while those of 5 years and upwards numbered 92.

Of the total number of deaths registered, 75 were under 1 year, 32 between 1 and 5 years, 18 between 5 and 25 years, 47 between 25 and 65, and 27 from 65 upwards.

3 persons belonging to this district died in Sunderland Infirmary, 7 in Easington Workhouse, and 1 in High Barnes Home, a total of 11, as compared with 22 in 1907 and 12 the average for the previous 10 years.

The death rate for England and Wales for 1909 was 14·5.

Phthisis caused 11 deaths, equal to a mortality rate of 0·7, as compared with 1·1 in 1908. Other tuberculous diseases were responsible for 17 deaths, equal to a rate of 1·2, as against 1·9 in the previous year.

Bronchitis and pneumonia caused 27 deaths, which gives a rate of 1·9, as compared with 2·7 in 1908.

## ZYMOTIC DISEASES.

The following deaths occurred from zymotic diseases : measles 16, diphtheria 2, enteric 4, diarrhoea 5, and enteritis 3—a total of 30, which gives a mortality rate of 2·1, as compared with 2·2 in 1908. The zymotic death-rate was again high, owing to the large number of deaths from measles, as compared with 1908, when only one occurred. The zymotic death-rate for England and Wales for 1909 was 1·12.

20 deaths were reported to H.M. Coroner, and 15 inquests were held.

### INFANTILE MORTALITY.

Infantile mortality is measured by the number of deaths under 1 year of age per 1,000 children born alive during the year.

75 deaths occurred in this district, equal to a mortality rate of 136, as compared with 144 in 1908, and 160 the average for the previous 10 years. The highest rate recorded in this district was 214 in 1897. The infantile mortality rate for England and Wales for 1909 was 109.

The principal causes of death were :—

Premature birth	...	...	21
Congenital defects	...	...	6
Congenital debility	...	...	11
Measles ...	...	...	4
Diarrhœal diseases	...	...	7
Tubercular diseases	...	...	9
Acute pulmonary diseases	...	...	13
Convulsions	...	...	2
Other causes	...	...	2
			—
			75

From the above list it will be seen that 38 infants died from having been born prematurely, congenitally debilitated, or imperfectly developed. Of the remaining 37, 13 died from acute pulmonary diseases which are generally caused by exposure to damp, cold winds. I am surprised that the mortality is not greater considering the way in which infants are taken out at night, even when the weather is most inclement.

The Notification of Births Act has not been adopted in this district. There is no lady health visitor, but much good work is done by the district nurse, who instructs mothers how to feed and take care of their children.

The following table gives the causes of death of all children under 5 years of age, a total of 107, which is the same number as in 1908.

# Deaths from stated Causes of Children under Five Years of Age.

Cause of Death	ALL CAUSES		Certified		Uncertified		Total Deaths under 1 Month		Total Deaths under 3 Weeks		Total Deaths under 4 Weeks		Total Deaths under 5 Weeks					
	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	4-5 Weeks	5-6 Weeks	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	1-2 Yrs.	2-3 Yrs.	3-4 Yrs.	4-5 Yrs.	Total Deaths under 5 Years	
Smallpox	25	2	3	4	34	7	5	5	5	3	3	2	75	12	12	3	107	
Chicken-pox																		
Measles																		
Scarlet Fever																		
Diphtheria: Croup																		
Whooping Cough																		
Diarrhoea, all forms																		
Enteritis ( <i>not Tuberculous</i> )																		
Gastritis, Gastro-intestinal Catarrh																		
Premature Birth																		
Congenital Defects																		
Injury at Birth																		
Want of Breast-milk																		
Aatrophy, Debility, Marasmus																		
Tuberculous Meningitis																		
Tuberculous Peritonitis:																		
Tabes Mesenterica																		
Other Tuberculous Diseases																		
Erysipelas																		
Syphilis																		
Rickets																		
Meningitis ( <i>not Tuberculous</i> )																		
Convulsions																		
Bronchitis																		
Laryngitis																		
Pneumonia																		
Suffocation, overlaying																		
Other Causes																		
Other Causes.																		
	25	2	3	4	34	7	5	5	2	3	4	5	3	3	2	2	107	

## INFECTIOUS DISEASES.

14 cases of diphtheria, 5 of erysipelas, 10 of scarlet fever, and 12 of enteric fever were notified, a total of 41, as compared with 43 in 1908.

A severe epidemic of measles occurred during the months of March, April, and May. All the elementary schools were closed, cleaned, and disinfected.

10 cases of scarlatina were notified. 6 of these were removed to the isolation hospital, which I believe prevented the spread of the disease. No death occurred.

There were 14 cases of diphtheria, 6 of which were children under 5 years of age. The patients were carefully isolated in their own homes. 2 deaths occurred.

12 cases of enteric fever were notified, as compared with 23 in 1908.

2 sailors arrived in the port suffering from the disease, a nurse contracted it in hospital, 2 persons by direct infection from a tramp, and 1 outside the district. The remaining 6 cases were scattered over the district—1 in John street, 1 in Alfred street, 1 in Ilchester street, 2 in Back North terrace, and 1 in Back South Railway street. I thoroughly investigated these cases, but was unable to find any common cause of infection.

There has not been a case of smallpox, typhus, relapsing, continued, or puerperal fever.

The smallpox hospital is kept in readiness, so that any case which may occur can be promptly isolated.

10 cases of enteric and 6 of scarlatina were treated in the isolation hospital.

There are only two wards in the hospital, so that if two persons of opposite sexes suffering from the same disease are under treatment, no other infectious disease can be admitted. I would therefore suggest for your consideration the advisability of building two additional wards.

During the prevalence of cholera at Rotterdam, all vessels arriving from that port were detained, and no person permitted to leave a ship until the crew had been inspected by the surveyor and myself.

One case of phthisis was notified. A person suffering from this disease was sent by the Easington Guardians to the Stanhope Sanatorium. She has now returned home much improved in health, has been taught how to treat herself, and what precautions should be taken to prevent the spread of the disease.

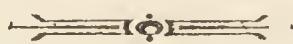
29 houses and 22 lots of bedding were disinfected, and disinfectants were supplied free of charge to infected houses.

The following tables give the number of cases of infectious disease notified in each year since 1894, and in each month during 1908.

**Cases of Infectious Disease Notified during 1909 and previous years.**

NOTIFIABLE DISEASE	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
Small-pox ..	1															
Cholera..																
Diphtheria ..		2														
Membranous Croup }		1						1								
Erysipelas ..	16	11	14	10	12	7	11	8	3	6	21	13	2	9	4	5
Scarlet Fever ..	147	77	86	40	36	12	25	84	43	56	13	12	6	3	9	10
Typhus Fever..																
Enteric Fever..	12	20	14	11	20	27	30	28	14	5	2	1	2	1	23	12
Relapsing Fever																
Continued Fever																
Puerperal Fever																
Plague ..																
Totals ..	176	114	114	63	68	46	69	130	78	109	43	26	13	23	43	41

# INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889.



## Cases Notified each Month.

Months	No. of Cases Notified	CAUSES					FEVERS					
		Smallpox	Cholera	Diphtheria	Membranous Croup	Erysipelas	Scarlet Fever	Typhus	Enteric or Typhoid	Relapsing	Continued	Puerperal
January ..	3					2			1			
February ..	7			4					3			
March ..	6			3		1	1		1			
April ..	5			4					1			
May ..	1			1								
June ..	5					1	3			1		
July ..	1						1					
August ..	0											
September	1							1				
October ..	5			1			1			3		
November	5			1			3			1		
December	2					1				1		
YEARLY TOTALS	41			14		5	10		12			

## GENERAL SANITATION.

*Water.*—The water supply pumped from the magnesian limestone has been satisfactory in every respect.

*Housing.*—78 houses in flats for two tenants, and 83 for one tenant, have been erected during the year. This gives a total of 745 tenements erected since the last census.

9 improperly paved yards have been cemented and 3 asphalted, making a total of 279 during the last nine years. I hope this work will be continued until all the coble yards have disappeared.

7 formal notices were served on the owners of insanitary houses. These dwellings were subsequently made habitable.

14 cases of overcrowding were dealt with during the year.

Part III. of the Public Health Acts Amendment Act, 1907, has only just been put in force in the district, so that the Council have not yet had time to take any action under sections 39-42.

There are in the district 238 pail closets, 415 ash closets, and 1324 water closets. Practically all the w.cs. have been erected during the last nine years, and I believe it is the intention of the Council in future to permit the erection of water closets only.

6 insanitary ash closets have been replaced by w.cs. during the year, and I have pleasure in reporting that the plans recently passed for colliery houses at Dawdon provide for the fitting of water closets instead of ash closets. These houses will make good sanitary dwellings.

The Sanitary Committee, the Surveyor, and myself, inspected the district. Notices were served regarding improperly paved yards, defective traps, and other insanitary conditions. With the exception of 8 yards all these notices have been complied with.

*Sewerage.*—The only brick sewers in the district are those in Back South Railway street, Back North Railway street, Green street, and North terrace.

*Scavenging.*—The scavenging has been done by the employees of the Council, and has been carried out satisfactorily. Part of the refuse has been used as manure and the remainder tipped into the sea.

*Streets.*—Several streets have been made at Dawdon and near the Bottleworks. Ropery Road is now being made.

*Dairies, Cowsheds, and Milk Shops.*—There are two dairy farms which have been regularly inspected. The cow sheds are well kept and 863 cubic feet of air space allowed for each animal. The Council have not caused any animals to be examined by a Veterinary Surgeon.

The milk shops, 27 in number, have been inspected frequently. With the exception of want of cleanliness in 4 cases they were found in a satisfactory condition.

*Common Lodging Houses.*—There are in the district 4 common lodging houses affording accommodation for 126 lodgers with an average of 312 cubic feet of air space per head. They have been inspected regularly and found in good order. No case of infectious disease occurred in any of the lodging houses during the year.

*Slaughter Houses.*—These, 14 in number, have been regularly inspected and found in clean, good condition. There is no inspector with a special certificate in meat inspection, but the Inspector of Nuisances visits the slaughter houses occasionally at the time of slaughtering. No carcasses were found tuberculous.

*Inspection of Ships.*—The Inspector of Nuisances inspected 208 vessels during the year. 6 cases of want of cleanliness were discovered, otherwise he found the ships in good order. Two seamen were found to be suffering from enteric fever and removed to the isolation hospital. During the prevalence of cholera at Rotterdam I accompanied him on board all vessels arriving from that port and found the crews healthy.

*Factories and Workshops.*—There are in the district 7 factories, 48 bake-houses, and 21 workshops. They have been frequently inspected by the surveyor and myself. The only defects found were want of cleanliness in 4 bake-houses. The sanitary arrangements were found satisfactory. There are no out-workers, and no underground bake-houses.

*Sanitary Requirements.*—Cementing or asphalting of all improperly paved yards and footpaths.

I am indebted to Mr. Aird for his report on the weather during the year from records taken by him at the Climatological Station, and to Mr. Burrell for his report on the work done in his department.

I am, Gentlemen,  
Your obedient servant,  
L. G. DILLON, M.D.,M.Ch.,  
Medical Officer of Health.

*Tempest House,*  
*Seaham Harbour,*  
*January, 1910.*

**CAUSES OF, AND AGES AT, DEATH  
DURING YEAR 1909.**

CAUSES OF DEATH.		Deaths at the subjoined ages of "Residents" whether occurring in or beyond the District.						Total Deaths whether of "Resi- dents" or "Non-res- idents" in Public Institu- tions in the District.
		All Ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	
Small-pox .. .	16	4	11	1				
Measles .. .								
Scarlet Fever .. .								
Whooping Cough .. .								
Diphtheria including Mem- branous Croup .. .	2			1	1			
Croup .. .								
Fever { Typhus .. .	4							
Enteric .. .								
Other continued .. .								
Epidemic Influenza .. .	2							
Cholera .. .								
Plague .. .								
Diarrhoea .. .	5	4	1					
Enteritis .. .	3	3						
Puerperal Fever .. .								
Erysipelas .. .								
Phthisis .. .	11			2	3	6		
Other Tuberculous Diseases	17	9	7	1				
Cancer, malignant disease..	5							
Bronchitis .. .	7	6						
Pneumonia .. .	20	7	8	1				
Pleurisy .. .								
Other Diseases of Respira- tory Organs .. .								
Alcoholism }								
Cirrhosis of Liver .. .								
Venereal diseases .. .								
Premature Birth .. .	21	21						
Diseases and accidents of parturition .. .	2							
Heart diseases .. .	15	3		1		9		
Accidents .. .	7	1				6		
Suicides .. .								
All other causes .. .	62	17	4	4	2	12	23	
All causes .. .	199	75	32	11	7	47	27	10

**INFANTILE MORTALITY DURING THE YEAR 1909.**  
**Deaths from Stated Causes in Weeks and Months under One Year of Age.**

Cause of Death	All Causes		Certified		Uncertified		Common Diseases	Diarrhoeal Diseases	Wasting Diseases	Croupous Diseases	Wheezing Diseases	Infectious Diseases	Other Causes.	Total Deaths under 1 Month	1 Week	2 Weeks	3-4 Weeks	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under 1 Year		
	Under 1 Week	2 Weeks	1 Week	2 Weeks	1 Week	2 Weeks																					
Smallpox	..	..	..	..	..	..																					
Chicken-pox	..	..	..	..	..	..																					
Measles	..	..	..	..	..	..																					
Scarlet Fever	..	..	..	..	..	..																					
Diphtheria: Croup	..	..	..	..	..	..																					
Whooping Cough	..	..	..	..	..	..																					
Diarrhoea, all forms	..	..	..	..	..	..																					
Enteritis ( <i>not Tuberculosis</i> )	..	..	..	..	..	..																					
Gastritis, Gastro-intestinal Catarrh	..	..	..	..	..	..																					
Premature Birth	..	..	..	..	..	..																					
Congenital Defects	..	..	..	..	..	..																					
Injury at Birth	..	..	..	..	..	..																					
Want of Breast-milk	..	..	..	..	..	..																					
Atrophy, Debility, Marasmus	..	..	..	..	..	..																					
Tuberculosis	..	..	..	..	..	..																					
Convulsions	..	..	..	..	..	..																					
Bronchitis	..	..	..	..	..	..																					
Laryngitis	..	..	..	..	..	..																					
Pneumonia	..	..	..	..	..	..																					
Suffocation, overlaying	..	..	..	..	..	..																					
Other Causes	..	..	..	..	..	..																					
Total Deaths under 1 Month	25	2	3	4	34	7	5	5	2	3	4	5	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2

Population, estimated to middle of 1909, 14,000.

Births in the year { legitimate, 538. Deaths in the year { legitimate infants, 67.  
 illegitimate, 12. illegitimate infants, 8.

Deaths from all Causes at all Ages, 199.

## Vital Statistics of Whole District during 1909 and Previous Years.

YEAR	Population estimated to Middle of each year	BIRTHS		TOTAL DEATHS REGISTERED IN THE DISTRICT				NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT	
		Number	Rate	Under 1 Year of Age		At all Ages		Deaths of Non-Residents registered in Public Institutions beyond the District	Deaths of Residents registered in Public Institutions beyond the District
				Number	Rate per 1000 Births registered	Number	Rate		
1899	9957	420	42.1	75	178	196	19.6		10
1900	10074	424	42.0	74	174	213	21.1		14
1901	10192	446	43.7	82	183	243	23.8		12
1902	10312	481	47.6	75	155	195	18.9	1	11
1903	10433	465	44.5	69	148	213	20.4		5
1904	10556	459	43.4	58	126	187	17.7	1	15
1905	11000	465	42.2	79	169	223	20.2		12
1906	11200	438	39.1	82	187	200	17.8	4	3
1907	11750	489	41.6	69	141	226	19.2	1	10
1908	12500	470	37.6	68	144	216	17.2	7	2
Averages for years 1899-1908		455	42.3	73	160	211	19.5		12
1909	14000	550	39.2	75	136	192	13.7	10	4
								11	199
								11	222
								14.2	20.6

## Cases of Infectious Disease Notified during the year 1909.

Notifiable Disease	At all Ages	CASES NOTIFIED IN WHOLE DISTRICT						Total Cases Removed to Hospital
		Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards	
Smallpox .. ..								
Cholera .. ..								
Diphtheria (including Membranous Croup)	14	1	5	6	1	1		
Erysipelas .. ..	5						5	
Scarlet Fever ..	10		1	5	2	2		6
Typhus Fever ..								
Enteric Fever ..	12				5	7		10
Relapsing Fever ..								
Continued Fever ..								
Puerperal Fever ..								
Plague .. ..								
<b>TOTALS</b> .. ..	<b>41</b>	<b>1</b>	<b>6</b>	<b>11</b>	<b>8</b>	<b>15</b>		<b>16</b>

Isolation Hospital—Name and situation: Seaham Isolation Hospital, situated in the district. Total available beds—16.  
Number of diseases that can be concurrently treated—2.

**SUMMARY of Work done in the Inspector of Nuisances'  
Department during the Year 1909, in the Urban  
District of Seaham Harbour.**

		Number of Informal written Notices by Inspector	Number of Formal Notices by order of Authority	Number of Nuisances abated after Notice
<b>1. PUBLIC HEALTH ACTS.</b>				
Dwelling-houses and Schools	Foul Conditions .. Structural Defects .. Overcrowding ..	8 8 14		8 8 14
Lodging-houses ..	.. .. .. ..	3		3
Dairies and Milkshops ..	.. .. .. ..	4		4
Cowsheds ..	.. .. .. ..			
Bakehouses ..	.. .. .. ..	4		4
Slaughter-houses ..	.. .. .. ..	2		2
Ashpits and Privies ..	.. .. .. ..			
Deposits of Refuse and Manure ..	.. .. .. ..	2		2
Waterclosets ..	.. .. .. ..	18		18
Defective Yard Paving ..	.. .. .. ..	{ 11	20	12 11
House Drainage	Defective Traps .. No Disconnection from Sewers .. Other Faults ..	4 4 12		4 4 12
Water Supply ..	.. .. .. ..		Good	
Pigsties ..	.. .. .. ..			
Animals Improperly Kept ..	.. .. .. ..			
Offensive Trades ..	.. .. .. ..			
Smoke Nuisances ..	.. .. .. ..			
Other Nuisances ..	.. .. .. ..	32		32
Totals ..	.. ..	114	20	126

	Number
<b>2. Housing of the Working Classes Act, 1890.</b>	
Formal Notices served .. .. .. ..	7
Dwellings dealt with.. .. .. ..	7
Dwellings made habitable after formal notice .. ..	7
Closing Orders applied for .. .. ..	
Closing Orders granted by Magistrates .. ..	
Dwellings permanently closed .. .. ..	
<b>3.</b>	
Number of New Houses erected during the year—(78 in flats for two tenants, 83 for one tenant each house)	161
Number of such Houses occupied during the year ..	120
<b>4. Water, Food and Drugs.</b>	
Samples of Water taken for Analysis .. .. ..	
,,      ,, condemned as unfit for use .. ..	
Seizures of Unwholesome Food .. .. ..	
Convictions for exposing or selling Unwholesome Food ..	
Samples of Food and Drugs taken for Analysis ..	
,,      ,, found Adulterated .. .. ..	
<b>5. Precautions against Infectious Disease.</b>	
Lots of Infectious Bedding stoved or destroyed .. ..	22
Houses disinfected after Infectious Disease .. ..	29
Schools .. .. ..	8
,,      ,,      ,, (Twice disinfected for Measles)	
Prosecutions for exposure of infected persons or things ..	
Convictions .. .. ..	

JAMES BURRELL,

*Inspector of Nuisances.*

## Weather at Seaham Harbour for the Year 1909.

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### WIND.

The direction is taken twice daily, viz. : 9 a.m. and 9 p.m.  
The 730 observations thus taken were in the following proportions :

W ..	..	..	178
SW	..	..	154
NW	..	..	77
S ..	..	..	72
N ..	..	..	62
NE	..	..	49
SE	..	..	48
E ..	..	..	41
Calm	..	..	49
			—
			730

### TEMPERATURE.

Month	Average Maximum	Average Minimum	Mean
January ..	42·6	34·0	38·3
February ..	43·4	33·7	38·5
March ..	41·9	33·6	37·7
April ..	53·7	39·2	46·4
May ..	55·9	42·2	49·0
June ..	56·5	46·3	51·4
July ..	63·7	51·6	57·6
August ..	65·6	52·2	58·9
September ..	57·0	47·8	52·4
October ..	55·6	44·1	49·8
November ..	46·6	37·3	41·9
December ..	42·5	35·1	38·8
MEANS ..	52·1	41·4	46·4

Highest, 78°0, Aug. 12th and 14th ; Lowest, 18°0, Jan. 28th.

## RAINFALL.

Month	Total	Greatest fall in 24 hours		No. of Days
January .. ..	Inches ·770	Inches ·216 on 14th		12
February .. ..	1·342	·175	9th	10
March .. ..	3·919	·520	6th	22
April .. ..	2·495	·620	18th	16
May .. ..	1·586	·960	25th	12
June .. ..	1·867	·644	3rd	11
July .. ..	2·700	·550	6th	15
August .. ..	3·112	·610	16th	17
September .. ..	1·935	·500	27th	18
October .. ..	2·012	·430	23rd	19
November .. ..	1·105	·355	22nd	12
December .. ..	3·584	·775	6th	17
	26·427			181

Average fall for the years 1865 to 1871 inclusive—26·014 inches

Total for the year 1872—41·620 inches

Average for the years 1873 to 1909 inclusive—25·903 inches

,, Number of days on which rain fell—184

The year 1900 was the wettest in 38 years (except 1872), viz. 33·836. inches. The following were the next wettest :—

{ 1876 .. ..	30·083
{ 1877 .. ..	32·094
{ 1881 .. ..	31·391
{ 1882 .. ..	30·494
1903 .. ..	32·394

One inch of rain is equal to 1 gallon of water spread over 2 square feet, or 101 tons on an acre of land.

G. H. AIRD.

